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AUTHOR	Williams, Henry G., Jr.; And Others
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ABSTRACT

A survey of colleges offering 2-year programs in some phase of recreation was undertaken to determine what should be the major thrust of the recreation-education program for SUNY Agricultural and Technical College in Delhi, New York. In planning the curriculum, it was recommended that there be a flexible educational program which would allow a wide array of possible emphases but which would center on a resources-oriented base with emphasis on management, administration, and maintenance. Recommendations for administrative consideration included establishment of (1) an interdisciplinary academic unit to house the outdoor recreation management program, (2) an advisory council to give direction to the program, and (3) services to meet the needs of the students. Two curricula were suggested: a technical curriculum designed to educate associate professionals for employment and a transfer curriculum designed to provide the first 2 years of a B. A. degree program in recreation studies. Philosophies, objectives, descriptions, structures, components, outlines, and course descriptions of both curricula were formulated. Lists of needed physical facilities, instructional aids, and equipment were developed. References and a summary of potential texts are included. Related documents are RC 004 156, RC 004 157, and RC 004 159. (AN)

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VOLUME THREE

A Four Volume Report

DELHI RECREATION-EDUCATION PROJECT REPORT

CURRICULUM

Educational Program in Outdoor Recreation Management

RC004158

DELHI RECREATION-EDUCATION PROJECT REPORT

Prepared for:

Office of Planning Coordination

State of New York

By: Henry G. Williams, Jr., Director to 9 June 1969
B. Graham-Smith, Director from 9 June 1969
D.C. Wagner, Research Associate
J.W. Shiner, Research Assistant
R.G. Salsbury, Research Assistant
C.W.A. Macey, Research Assistant
Richard Dee, Landscape Architect-Design Consultant

STATE UNIVERSITY COLLEGE OF FORESTRY AT SYRACUSE UNIVERSITY

SCHOOL OF LANDSCAPE ARCHITECTURE BRADFORD G. SEARS, DIRECTOR

SYRACUSE N.Y. AUGUST 1969

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1. AN OVERVIEW

1.1 An Introduction.

A recreation leadership crisis exists. Many colleges and universities are honestly attempting to fill the void, however, the crisis continues to worsen. As a result, the two-year colleges have accepted the challenge to provide educational programs for associate leadership professionals to help fill the void. Numerous two-year programs have sprung up over the past several years. It was only last year, for instance, that the role of two-year colleges was fully recognized by the National Recreation and Park Association.

John Keats in The Sheepskin Psychosis ponders the need for college-level training for many occupations. In assessing the need for two-year programs the first question to be answered--Is it needed?

To answer this, we queried prospective employers, professional organizations, and other interested parties. The results of the query indicate a strong yes to our question. A study by Yelle (27) of county and municipal parks and recreation departments indicated a strong need. In a study of 17 state and federal recreation agencies, the program likewise recieved strong endorsement (21). A study of private recreation potential, while less definitive, showed some need in this recreation supply sector (21).

Through the medium of the aforementioned employment studies, and communication with other individuals and organizations, it was determined that a need existed for associate professionals who were educated to assume positions in resource-oriented recreation areas.

In order to determine the magnitude of recreation studies currently available within two-year colleges, a survey of such institutions was undertaken. Through various sources, a list of colleges offering a two-year program in some phase of recreation was developed. Each of these colleges was contacted for information relative to their educational program in recreation. Thirty-one colleges responded.

An analysis of the recreation studies picture in two-year colleges across the nation conveyed three major conclusions:

1. There has been a tremendous growth in two-year programs for educating associate professionals in recreation over the past several years.
2. The vast majority of these programs have been aimed at community

or program-oriented recreation. The very few resources-oriented programs are, for the most part, maintenance-oriented.

3. There is little uniformity in structure and content of curricula ostensibly designed to produce persons of similar competencies in recreation.

As a consequence of this analysis and communication with persons knowledgeable in the field, it was determined that the major thrust of the educational program for SUNY Agricultural and Technical College at Delhi should center on a resources-oriented base, with emphasis on management, administration and maintenance. The employment spectrum, being so diverse, led the planning group to seek a flexible educational program that would allow a wide array of possible emphasis. This built-in flexibility will likewise serve to meet the changing educational needs and future demands of the recreation field.

1.2 Administrative Considerations.

The basic recommendations relative to the administration of the outdoor recreation management program include:

1.21 An interdisciplinary unit be created to house the outdoor recreation management program. The unit would be under either the Agricultural or General Studies Divisions at the College.

1.22 An advisory council be established for the outdoor recreation management program.

1.23 Student services be developed to include selection and admission criteria, guidance and counseling, student records, and placement and follow-up.

1.24 A systematic and organized evaluation system be devised to insure continuous program evaluation.

1.3 The Outdoor Recreation Management Program.

The outdoor recreation management program has been developed under a set of strong, yet flexible objectives enabling a wide range of educational possibilities to encompass the complex spectrum of outdoor recreation studies. The program includes:

1.31 A two-year technical curriculum to educate associate professionals for employment in:

a. recreation resource management.
b. recreation program management.
c. composite recreation management to meet specific career goals.

The components of the curriculum are:

Component	Quarter Units	Semester Units
Basic Education Studies	40	25
Special Core Studies	14	10
Integrative Studies	11	7
Professional-Technical and Elective Studies	37	24
Total Units	102	66

1.32 A two-year transfer curriculum providing the first two years of education toward a baccalaureate degree in some phase of recreation studies. The components of the curriculum are:

Component	Quarter Units	Semester Units
Basic Education Studies	71	47
Special Core Studies	6	6
Integrative Studies	1	1
Elective Studies	24	12
Total Units	102	66

1.33 A continuing education program consisting of:

a. Conferences.
b. Workshops.
c. Short Courses.
d. Training Sessions.
e. Extension and Home Study Courses.
f. Associate Degree Program.

1.34 Professional-technical and special courses developed for the educational program include:

Outdoor Recreation Management
Outdoor Recreation Administration

Maintenance Skills
Electrical and Mechanical Equipment
Recreation Site Design Fundamentals
Interpretive Methods
Recreation Activities
Recreation Leadership
Natural Resource Management
Arts and Crafts
Introduction to the Arts
Campfire Activities
Camp Administration
Grounds Maintenance
Field Methods in History and Archeology
Special Studies in Outdoor Recreation
Senior Seminar
On-The-Job Training

1.4 Physical Facilities, Instructional Aids and Equipment.

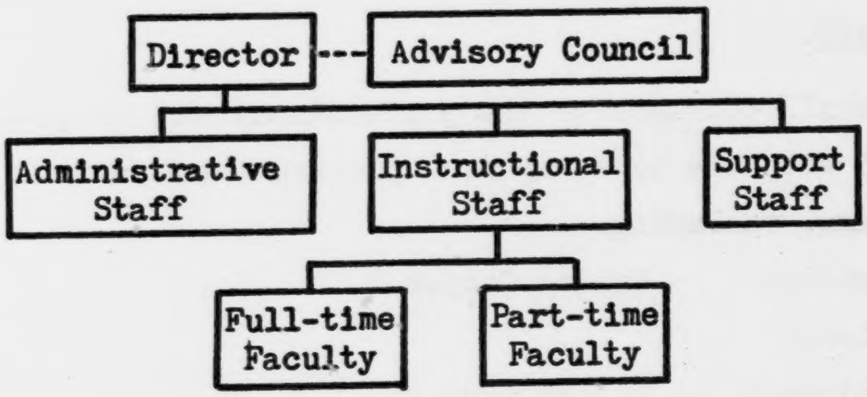
The physical facilities presently located at the College appear to be adequate to meet the needs of the outdoor recreation management program, particularly following completion of the Valley Campus Complex. The instructional aids and equipment recommended for the program include items of audio-visual equipment, office machines, and miscellaneous items of field equipment. Instructional aids and equipment for specific courses will also be needed.

2. SOME ADMINISTRATIVE CONSIDERATIONS.

2.1 Academic Unit.

An interdisciplinary unit should be created to house the outdoor recreation management programs. The unit may be placed under the administrative wing of either the Agricultural Division or General Studies Division. A recommended organization for the unit is shown below.

Organization of Outdoor Recreation Management Unit



2.11 Director.

The chief administrative officer of the OR Management program. Among his duties would be:

1. Coordinates the interdisciplinary aspects of the OR Management program.
2. Oversees the academic quality of the OR Management program and its courses.
3. Oversees the operation of the Valley Campus Recreation Complex.

2.12 Administrative Staff.

The administrative staff consists of secretaries, typists, and other such personnel as deemed appropriate.

2.13 Instructional Staff.

The instructional staff includes both full-time faculty within the OR Management unit and those holding a dual assignment with OR Management and another academic unit. In order to offer a full range of courses, the unit will need a minimum instructional staff of:

Full-time faculty	
Park Management Specialty	1
Forest Recreation Specialty	1
Part-time faculty	
Physical Education (Recreation)	2
Plant Science (Horticulture)	1
Biology	1
Construction Technology	1
Social Science	1

2.14 Support Staff.

The support staff consists of the professional and technical personnel associated with the OR Management program through their assignment at the College, including:

Assistant Director - Valley Campus
Golf Professional
Maintenance Foreman - Valley Campus
Maintenance Personnel - Valley Campus

2.2 Advisory Council.

An Advisory Council should be established for the Outdoor Recreation Management Program. The composition of the Council would vary, however, a suggested membership includes one or more representatives from each of the following organizations:

New York State Conservation Department
SUNY College of Forestry at Syracuse
SUNY College of Agriculture at Cornell
SUNY College at Cortland
A local county park agency
A local recreation agency

The Council would advise the Director on appropriate matters relative to the Outdoor Recreation Management Program.

2.3 Student Services.

The most important ingredient in the educational recipe is the student. To be successful, the OR Management program must focus upon the needs and aspirations of the student, while maintaining a secure grasp upon the societal and professional-technical requirements essential to the maintenance of high academic and associate professional standards.

2.31 Selection and Admission Criteria.

The importance of selecting both qualified and adequately prepared students for enrollment in the OR Management program cannot be overemphasized. Unqualified or unprepared students will undermine the high levels of quality demanded of the OR Management program.

The minimum criteria for admittance to the program should include:

1. Graduation from an approved secondary school, with accreditable completion of:
   a. Three standard secondary units of English
   b. Two standard secondary units of mathematics.
   c. One standard secondary unit in biology.
2. Recommendation of secondary school principal or guidance counselor.
3. Demonstration of good moral character, promise of growth, seriousness of purpose and a sense of social responsibility.
4. Demonstration of physical health commensorate with strenuous outdoor activities.

2.32 Guidance and Counseling.

All students requesting admission to the OR Management program should have a pre-admission interview with a professionally trained guidance counselor. This initial interview will analyze the applicant's aptitude and career goals in reference to the OR Management program. Students judged unqualified or unprepared and those with career goals best met elsewhere should not be admitted to the OR Management program.

Upon the recommendation of the guidance counselor, the student should be admitted to the program and assigned a curriculum advisor. The curriculum advisor, an OR Management staff member, should explain the various curriculum alternatives and design a program commensorate with the student's interests and career goals. Care must be exercised to eliminate the possibility that the flexible nature of the curriculum be construed as license to enroll in a "hodge-podge" of unrelated courses. The sequence of courses selected to constitute the student's program should exhibit both internal logic and external relevance.

Those students deemed likely candidates to continue their education past the two-year program should be encouraged to enroll in the transfer curriculum. Students with specific career goals should be steered to the curriculum best suited to their needs.

Counseling is an extremely important step in the student's career development. Proper counseling will render relevant placement resulting in less student frustration, failure and attrition.

2.33 Student Records.

Adequate student records should be maintained by the Director of the OR Management program and the Registrar of the College showing both academic and non-academic accomplishments.

2.34 Placement and Follow-up.

An essential student service involves job placement and follow-up. The OR Management staff should seek to assist the college placement personnel in securing employment opportunities for graduates of the technical program and acceptance to a four-year institution for transfer graduates. An evaluative follow-up should be conducted to appraise the strengths and weaknesses in the OR Management programs and their relative value to the student's career development. The content and procedure of program evaluation is discussed under Section 2.4.

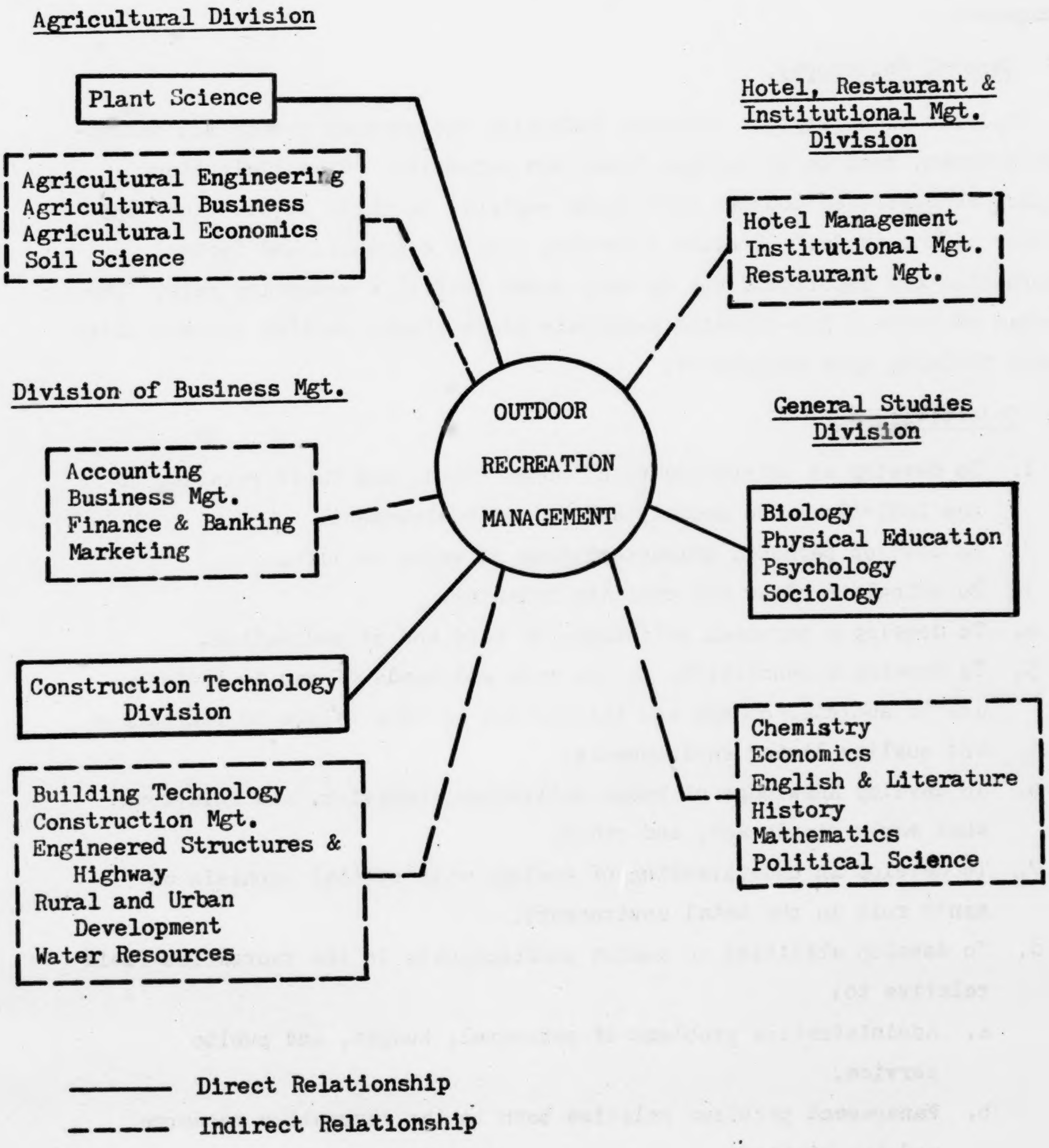
2.4 Program Evaluation.

The evaluation of the OR Management program should be a continuous effort. A systematic and organized yearly evaluative study should be undertaken utilizing the stated program objectives as a focus. The study should consist of three parts:

1. A self-evaluation of the program by the staff and current students.
2. An evaluative survey of graduates.
3. An evaluative survey of employees (of four-year institutions for transfer students).

See Harris (12) for evaluation guidelines.

2.5 Relationship of OR Management Program to Other Studies at SUNY Agricultural and Technical College at Delhi.


Agricultural Division
Plant Science
Agricultural Engineering
Agricultural Business
Agricultural Economics
Soil Science
Hotel, Restaurant & Institutional Mgt. Division
Hotel Management
Institutional Mgt.
Restaurant Mgt.
Division of Business Mgt.
Accounting
Business Mgt.
Finance & Banking
Marketing
OUTDOOR RECREATION MANAGEMENT
General Studies Division
Biology
Physical Education
Psychology
Sociology
Construction Technology Division
Building Technology
Construction Mgt.
Engineered Structures & Highway
Rural and Urban Development
Water Resources
Chemistry
Economics
English & Literature
History
Mathematics
Political Science
Direct Relationship
Indirect Relationship

3. THE TECHNICAL CURRICULUM

3.1 Purpose.

The technical curriculum is designed to educate associate professionals for employment in recreation resource management and recreation program management.

3.2 General Philosophy.

Analysis of employment criteria indicates the outdoor recreation management program, must be of college level and intensity. Time limitations require concentrated courses with heavy emphasis on skill acquisitions and "tricks of the trade." Studies conveying theory concepts, and factual information are important, but in many cases fulfill a secondary role. The program educates a job-oriented associate professional needing minimum additional training upon employment.

3.3 Objectives.

1. To develop an understanding of human values and their relation to the individual, to society and to the environment.
2. To develop personal characteristics of value to life.
3. To stimulate clear and creative thinking.
4. To develop a personal philosophy of life and of recreation.
5. To develop a sensitivity to the role and needs of man in society, and to societal change and interaction as they relate to recreation and quality living environments.
6. To develop knowledge of human motivation, behavior, and relations; what makes people act, and react.
7. To develop an understanding of ecology with special emphasis on man's role in the total environment.
8. To develop abilities to assist professionals in the recreation field relative to:
   a. Administrative problems of personnel, budget, and public service.
   b. Management problems relative both to the recreation resource and the visitor.
   c. Planning and designing problems relative to recreation facilities and areas.

   - d. Planning and organizational problems relative to recreation programs (activities and experiences)
   - e. First aid, safety and rescue problems.

9. To become familiar with the various outdoor recreation activities available to the public.
10. To develop maintenance and construction skills.
11. To develop an understanding of the political process.
12. To develop the ability to supervise work crews and other employees.
13. To develop the ability to communicate, both writing and speaking, on both a technical and social level.
14. To develop a working knowledge of natural resource management techniques.
15. To develop an understanding of the relationship and interaction of the environment, people, and management.
16. To develop the ability to interpret outdoor recreation and environmental concerns to the general public.
17. To develop an appreciation of recreation as a profession.
18. To develop an understanding of the total recreation field, its history, and the role of outdoor recreation.
19. To develop the knowledge of professional, service, and related agencies and organizations which are available to assist in outdoor recreation problems.
20. To provide a basis for further study.

3.4 Description.

The technical curriculum in outdoor recreation management is essentially multi-track in nature. The curriculum is designed around two areas of emphasis ("options"); recreation resource management and recreation program management.

3.41 Recreation Resource Management.

This emphasis enables the student to obtain professional-technical skills in the management of natural (and to some extent, man-made) resources for recreational use. Graduates will qualify as:

1. Park managers and assistant managers
2. Recreation area managers and assistant managers
3. Naturalist aides

4. Maintenance foremen
5. Park technicians
6. Other such positions

3.42 Recreation Program Management.

This "option" puts emphasis upon the management of outdoor recreation activities in parks and other outdoor recreation areas. Graduates will qualify as:

1. Program specialists
2. Program aides
3. Recreation activity instructors
4. Naturalist aides
5. Other such positions

3.43 Composite Emphasis.

The student, in consultation with his advisor, may select a composite emphasis that provides for an educational background commensorate with his employment ambitions or current employment opportunities.

3.5 Structure.

The terminal curriculum consists of:

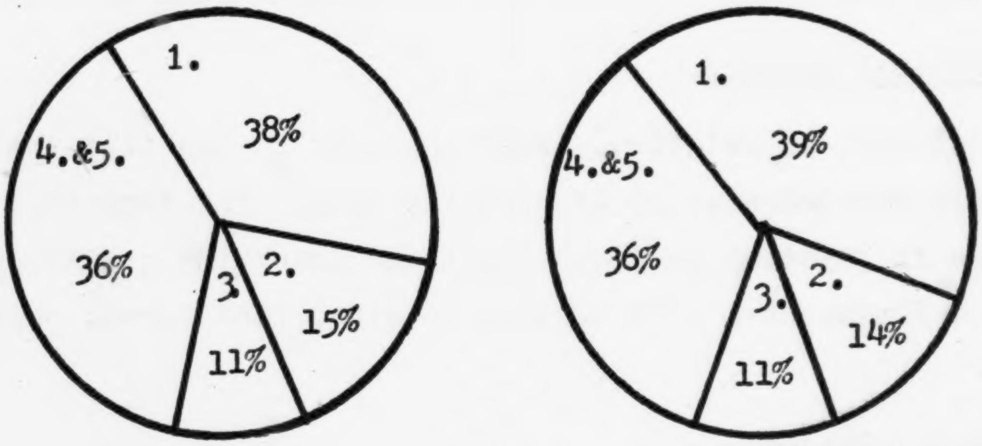
1. A basic education core.

	Quarter Units	Semester Units
a. Communications	12	6
b. Natural Science	11	9
c. Physical Science	3	-
d. Social Science	9	6
e. Mathematics	3	3
f. Physical Education	2	1
2. Special core studies.		
a. Introduction to Outdoor Recreation	3	3
b. Conservation	3	3
c. Safety & First Aid	1	1
d. Basic Graphics	3	3
e. Grounds Maintenance	4	-

3. Integrative studies.

	Quarter Units	Semester Units
a. On-the-job training	10	6
b. Senior Seminar	1	1

4. Selected professional-technical studies dependent upon student needs and interests (variable units).
5. Selected elective studies outside the major field dependent upon student needs and interests (variable units).



Semester Plan

Quarter Plan

Relative Emphasis of Curriculum Components Under the Two Plans.

3.6 Description of Curriculum Components.

3.61 Basic Education Component.

The basic education component reflects those studies felt to provide the student with both a fundamental understanding of the culture in which he must function and provide a knowledge base as a springboard for professional-technical studies. The elements of this component and their justification are:

3.611 Communications.

Communications provides knowledge and skills to develop communicative abilities so essential in contemporary society. Recreation, as a public service and public contact profession, requires a deep preparation in communicative skills. English composition and public speaking provide the necessary basic rhetorical skills.

3.612 Natural Science.

An understanding of the natural environment and the interrelationships existing therein is essential, not only to resource managers, but to every citizen. The sequence of field biology, ecology, and human ecology will provide such an understanding. Field biology will develop a knowledge base and awareness relative to the components of the outdoor environment. Ecology will focus upon the interrelated pattern of the environmental components and convey concepts thereof. Human ecology imparts man's role in the environment, underscores the causes and effects of environmental neglect, and develops awareness of solutions to environmental problems.

3.613 Physical Science.

This element is relatively weak, however it was felt that sufficient basic knowledge would be obtained within the technical courses. The course in physical geography included under the quarter plan provides a fundamental introduction to maps, land forms, soils and climate.

3.614 Social Science.

Associate professionals in recreation need an understanding of the social context in which they will function. In addition, they must be knowledgeable about human behavior patterns (why and how people act and react), social organizations and person-to-person relationships. It is also important to understand the governmental processes and administrative procedures in a democratic society. The courses in Psychology, sociology and public administration will provide an overview of the basic concepts while emphasizing those aspects of relative importance to associate professionals in outdoor recreation.

3.615 Mathematics.

Basic math skills are an essential element of personal knowledge. The math course is designed to develop and/or reinforce basic mathematics principles, concepts, and techniques. Emphasis will be placed on the acquisition of math skills that are of benefit to associate professionals in outdoor recreation.

3.616 Physical Education.

The development of the body as well as the mind has always been considered an important element of the educative process. Physical education provides an opportunity to develop a healthy body and acquire certain skills to help maintain health. Concomitantly, these skills also provide recreational activity skills.

3.62 Special Core Studies Component.

The special core studies are included to provide a basic insight into the field of recreation and to develop certain abilities deemed important to associate professionals in outdoor recreation.

3.621 Introduction to Outdoor Recreation.

This course provides the student's initial orientation into the recreation field, implants the concepts and constructs for the development of the student's personal philosophy of recreation and explores the multi-faceted employment opportunities in the recreation field.

3.622 Conservation.

This course provides an insight into the origin and history of the conservation movement, conveys concepts important to the development of a personal "conservation ethic", and outlines the various techniques utilized to manage our natural resources.

3.623 Safety and First Aid.

An important aspect of any citizen's education, particularly those in public service and public contact professions (such as outdoor recreation). The course outlines the responsibilities of associate professionals in safety, sanitation, and first aid activities.

3.624 Basic Graphics.

Provides the basic drawing skills as a basis for later planning and facility development courses. (Serious consideration should be given to waive this course for those students who have completed a high school mechanical drawing or graphics course.)

3.625 Grounds Maintenance.

An understanding of grounds maintenance is important to associate professionals since most positions will, in all likelihood, include some grounds maintenance responsibilities. Under the semester plan, the course is listed as optional; under professional courses, however, each student should be encouraged to complete it.

3.626 Woody Plant Materials.

The identity, characteristics, and care of woody plant materials is essential in grounds maintenance. This course provides additional skill and knowledge relative to this phase of outdoor recreation management.

3.63 Integrative Studies Component.

This component, consisting of on-the-job training and a senior seminar, provides a measure of practicality to the curriculum.

3.631 On-The-Job Training.

Allows the student to assume responsibility for certain aspects of the work he will be expected to perform after graduation; to develop an appreciation of the job; and to learn the "peculiarities" of the job which can only be obtained from direct experience.

3.632 Senior Seminar.

Provides the student an opportunity to explore current recreation problems of interest and importance to associate professionals. The seminar will serve to integrate "text-book knowledge" with "real-life problems" of the type that will face the associate professional as he assumes employment responsibilities.

3.64 Professional-Technical Studies Component.

These courses provide the necessary technical and professional competencies to enable the associate professional to function effectively on-the-job. The description of each course is given in Section 6. The justification for the encapsulation of a certain sequence of these courses into a student's program rests with the individual student's interests and career goals.

3.65 Special Studies Component.

Courses offered by other academic units of the institution may be of importance to the student and should be allowed, dependent on the student's interests and career goals.

3.7 Curriculum Outline.

OUTDOOR RECREATION MANAGEMENT CURRICULUM
(TECHNICAL) - SEMESTER PLAN

First Semester		Second Semester	
English Composition	3	Public Speaking	3
Mathematics	3	Ecology	3
Introductory Psychology	3	Basic Graphics	3
Field Biology	3	Human Relations	3
Introduction to Outdoor Recreation	3	Conservation	3
Physical Education	1	Safety and First Aid	1
	16		16

Third Semester		Fourth Semester	
Human Ecology	3	Senior Seminar	1
Selected Professional or Special Courses	12-14	Selected Professional or Special Courses	12-14
	15-17		15-17

Professional Courses:	On-The-Job Training*	6	(R,P)**
	Outdoor Recreation Management	3	(R)
	Outdoor Recreation Administration	3	(R)
	Maintenance Skills	3	(R)
	Grounds Maintenance	3	(R)
	Woody Plant Materials	3	(R)
	Recreation Site Design Fundamentals	3	(R)
	Interpretive Methods	2	(R,P)
	Recreation Activities I, II	3,3	(P)
	Arts and Crafts	2	(P)
	Campfire Activities	1	(R,P)
	Camp Administration	3	(P)
	Camp Leadership	1	
	Natural Resources Management	3	(R)
	The Recreation Business	3	
	Historical and Archeological Field Methods	1	
	Special Studies in Outdoor Recreation	1-3	

Special Courses: Any other course offered by the institution that fills a need within the student's program.

NOTES: * On-The-Job Training required. It can be satisfied through supervised summer work between the freshman and senior years.

** R - recommended for resources option
P - recommended for program option

OUTDOOR RECREATION MANAGEMENT CURRICULUM PROPOSAL (TECHNICAL) - QUARTER PLAN

First Term

English Composition I	3
Mathematics	3
Field Biology	4
Physical Education	1
Physical Geography	3
Introduction to Outdoor Recreation	3
	17

Second Term

English Composition II	3
Introductory Psychology	3
Basic Graphics	3
Public Speaking	3
Safety & First Aid	1
Conservation	3
Physical Education	1
	17

Third Term

English Composition III	3
Public Administration	3
Grounds Maintenance	4
Human Relations	3
Ecology	4
	17

Fourth Term

Human Ecology	3
Selected Professional Courses	12-14
	15-17

Outdoor Recreation Management	3 (R)**
Maintenance Skills	4 (R)
Woody Plant Materials	4 (R)
Planning & Design of Recreation Activities	4 (R)
Campfire Activities	2 (R,P)
Recreation Activities	3 (P)
Recreation Leadership	3 (P)
Arts & Crafts	2 (P)
Special Studies in Outdoor Recreation	1-3

NOTES: **R - Recommended for resource option
P - Recommended for program option

OUTDOOR RECREATION MANAGEMENT CURRICULUM PROPOSAL (TECHNICAL) - QUARTER PLAN (con't)

Fifth Term

On-The-Job Training*	5
Selected Professional Courses	10-12
	15-17

Outdoor Recreation Administration	3 (R)**
Electrical & Mechanical Equipment	4 (R)
Historical & Archeological Field Methods	2 (R,P)
Introduction to the Arts	3 (P)
Special Studies in Outdoor Recreation	1-3

Sixth Term

On-The-Job Training*	5
Senior Seminar	1
Selected Professional Courses	9-11
	15-16

The Recreation Business	3 (R)
Natural Resources Management	4 (R)
Interpretive Methods	2 (R,P)
Recreation Activities	3 (P)
Camp Administration	4 (P)
Camp Leadership	1
Special Activities in Outdoor Recreation	1-3

NOTES: * On-The-Job Training (10 credits) can be satisfied through supervised summer work between the freshman and senior years.

** R - Recommended for resource option
P - Recommended for program option

4. THE TRANSFER CURRICULUM

4.1 Purpose.

The transfer curriculum is designed to provide the first two years of a baccalaureate degree program in recreation studies to be completed at another institution.

4.2 General Philosophy.

A transfer program must of necessity reflect college level studies. The program must provide adequate preparation to qualify the graduate for full acceptance at the third year level of a baccalaureate program. The studies concentrate on theory, concepts and factual information with minimum emphasis on skill acquisition or professional-technical studies.

4.3 Objectives.

1. To develop an understanding of human values and their relation to the individual, to society and to the environment.
2. To develop personal characteristics of value to life.
3. To stimulate clear and creative thinking.
4. To develop a personal philosophy of life and of recreation.
5. To develop a sensitivity to the role and needs of man in society, and to societal change and interaction as they relate to recreation and quality living environments.
6. To develop knowledge of human motivation, behavior, and relations; what makes people act, and react.
7. To develop an understanding of ecology with special emphasis on man's role in the total environment.
8. To develop the ability to communicate, both writing and speaking, on both a technical and social level.
9. To develop a beginning understanding of the relationship and interaction of the environment, people, and management.
10. To provide an introduction to the wide range of studies germane to the field of recreation with special emphasis on developing:
    a. The ability to interpret outdoor recreation and environmental concerns to the general public.
    b. An appreciation of recreation as a profession.
    c. An understanding of the total recreation field, its history,

and the role of outdoor recreation.

d. The knowledge of professional service, and related agencies and organizations which are available to assist in outdoor recreation problems.

11. To provide a basis for further study.

4.4 Description.

The transfer curriculum is a single purpose curriculum designed to provide sufficient academic credit in the areas of knowledge deemed essential for the first two years of study toward a bachelor's degree in some phase of recreation studies. The curriculum has sufficient flexibility to allow the student, in consultation with his advisor, to structure his studies to meet the needs of his transfer goals - whether he wishes to transfer to a bachelor degree program in resources-oriented recreation studies or one in activity-oriented recreation studies. Both the basic education core and elective components provide the necessary flexibility.

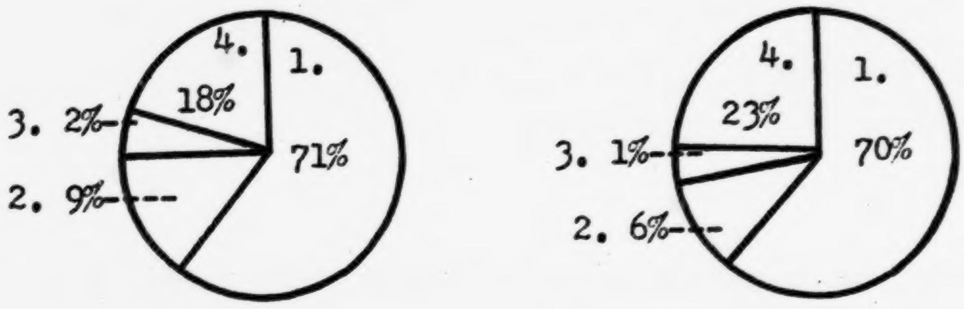
4.5 Structure.

The transfer curriculum consists of:

	Quarter Units	Semester Units
1. A basic education core.		
Communications	12	9
Natural Science	15	12
Physical Science	9-12	6- 8
Social Science	18-27	12-18
Humanities	0- 9	0- 6
Math	9	6
P. E.	3	2
2. Special core studies		
Introduction to OR	3	3
*Basic Graphics	3	3
3. Special Integrative studies.		
Senior Seminar	1	1

*Recommended for students transferring to resources-oriented institution.

4. Selected elective studies (variable units)



Semester Plan

Quarter Plan

Relative Emphasis of Curriculum Components Under the Two Plans.

4.6 Description of Curriculum Components.

The basic justification for the components of the transfer curriculum rests with its innate ability to provide maximum transferability of credits to four-year institutions.

4.61 Basic Education Component.

This component places emphasis upon the acquisition of communicative and mathematical abilities, and conceptual development in the natural, physical and social sciences and the humanities.

4.611 Communications Element.

(see Technical Curriculum, section 3.611)

4.612 Natural Science Element.

Basically, the same justification as under the technical curricula, however, the course sequence provides for deeper insight into the fundamental divisions of biology, i.e., botany and zoology. These are followed by courses in ecology and human ecology.

4.613 Physical Science Element.

Greater emphasis is placed here than under the technical curricula. For resource-oriented transfer, one year of chemistry is recommended, and one year of geology may be substituted for the humanities studies. For activity-oriented transfer, one year of geology or astronomy (or half-year of each) is appropriate. These elements meet the requirements of many four-year institutions and provide the student with the basics for further study.

4.614 Social Science Element.

The social science element includes one year of sociology for all students. In addition, a year of economics is recommended for resource-oriented transfers; a year of psychology for activity-oriented transfers. This element provides the student with a basic understanding of certain aspects of the social matrix surrounding life. The basic understandings and concepts developed under this element provide a base for further studies.

4.615 Humanities Element.

This element, recommended for activity-oriented transfers, provides the student with an opportunity to explore aspects of literature, philosophy or the fine arts.

4.616 Mathematics Element.

This element provides basic algebraic and trigonometric skills - both useful and relevant mathematical skills for recreation professionals.

4.617 Physical Education Element.

(see Technical Curriculum, section 3.616)

4.62 Special Core Studies.

4.621 Introduction to Outdoor Recreation.

(same as for Technical Curriculum)

4.622 Basic Graphics.

(same as for Technical Curriculum)

4.63 Special Integrative Studies.

4.631 Senior Seminar.

(same as for Technical Curriculum)

4.64 Selected Elective Studies.

The curriculum provides 9-12 semester units of electives (21-24 quarter units). These units may be utilized to:

1. reinforce basic education weaknesses.
2. to explore additional basic education studies.
3. to explore professional-technical studies.

4.7 Curriculum Outline.

OUTDOOR RECREATION MANAGEMENT CURRICULUM PROPOSAL
(TRANSFER) - SEMESTER PLAN

First Semester	
English Composition I	3
College Mathematics I	3
Botany	3
General Sociology I	3
Introduction to Outdoor Recreation	3
Physical Education	1
	16

Second Semester	
English Composition II	3
College Mathematics II	3
Zoology	3
General Sociology II	3
Safety and First Aid (PE)	1
Elective	3
	16

Third Semester	
Public Speaking	3
Ecology	3
Social Science Elective	3
Humanities Elective	3
Physical Science Elective	3-4
Electives	3-5
	17

Fourth Semester	
Human Ecology	3
Senior Seminar	1
Social Science Elective	3
Humanities Elective	3
Physical Science Elective	3-4
Electives	3-4
	17

For students transferring to a resources-oriented school the following are recommended:

1. Second Semester Elective - Basic Graphics
2. Social Science Elective - Economics
3. Humanities Elective - substitute Geology or Psychology
4. Physical Science Elective - Chemistry

For students transferring to an activities-oriented school the following are recommended:

1. Social Science Elective - **Psychology**
2. Humanities Elective - Literature, Fine Arts, or Philosophy
3. Physical Science Elective - Geology or Astronomy

OUTDOOR RECREATION MANAGEMENT CURRICULUM PROPOSAL
(TRANSFER) - QUARTER PLAN

First Term	
English Composition I	3
College Algebra I	3
Sociology I	3
Botany	4
Introduction to Outdoor Recreation	3
Physical Education	1
	17

Second Term	
English Composition II	3
College Algebra II	3
Sociology II	3
Zoology	4
Physical Education	1
Elective	3
	17

Third Term	
English Composition III	3
Trigonometry	3
Sociology III	3
Ecology	4
Physical Education	1
Elective	3
	17

Fourth Term	
Social Science Elective	3
Humanities Elective	3
Physical Science Elective	3-4
Human Ecology	3
Electives	4-5
	17

Fifth Term	
Social Science Elective	3
Humanities Elective	3
Physical Science Elective	3-4
Public Speaking	3
Electives	5-6
	17

Sixth Term	
Social Science Elective	3
Humanities Elective	3
Physical Science Elective	3-4
Senior Seminar	1
Electives	6-7
	17

See notes under Transfer - Semester Plan.

5. CONTINUING EDUCATION

A third major thrust of the Outdoor Recreation Management program centers on its continuing education efforts. This aspect of the program provides both credit and non-credit educational opportunities to any interested New York citizen. The opportunities for continuing education are bound only by the imagination of the staff and financial limitations. Examples of programs that could be undertaken are:

1-Conferences
2-Workshops
3-Short Courses
4-Training Sessions
5-Extension and Home Study Courses
6-Associate Degree Programs

5.1 Conferences.

The Director should seek to establish and/or sponsor conferences relating to Outdoor Recreation Management. It is recommended that the Director establish an annual conference on Outdoor Recreation Management for associate professionals. Such a conference would provide the opportunity for associate professionals to keep up with new developments in their fields and provide for the interchange of ideas. In addition, the Director should encourage organizational conferences to utilize the Valley Campus facilities.

5.2 Workshops.

Workshops provide a short, intensive training session of 1 to 5 days duration with emphasis on the acquisition of skills. The Director should seek to develop work shops in cooperation with interested agencies or groups. Examples of workshops that could be undertaken include:

Family Camping Workshop
Park Administration Workshop
Recreation Skills Workshop
Winter Sports Workshop
Outdoor Education Workshop for Teachers

5.3 Short Courses.

Courses of one to two weeks duration providing intensive studies on various aspects of outdoor recreation. Examples of potential short courses at the college include:

- Campground Owners and Operators Short Course
- Park Maintenance Short Course
- Park Program Short Course
- Park Management Short Course

5.4 Training Sessions.

Specialized training sessions of varying lengths and content for specific agencies or groups should be cooperatively instituted whenever appropriate. Examples of training sessions include:

- Pre-work sessions for summer employees of the Division of State Parks
- Pre-work sessions for summer employees of the Division of Lands and Forests concerned with recreation duties
- Sessions for camp counselors, aquatic leaders, camp naturalists, program leaders, etc.

5.5 Extension and Home Study Courses.

The Director should strive to develop extension and home study courses in cooperation with appropriate units of the State University System. Such courses could be both credit or non-credit, and roughly parallel with the professional-technical courses offered at the college. Such courses should be developed, taught or administered, and evaluated by the instructional staff. The State University System should provide technical and financial assistance.

5.6 Associate Degree Program.

The Director should establish a system to enable New York citizens to obtain an associate degree (technical) through a sequence of extension or home study courses, transfer credits from other institutions of higher education, and satisfactory completion of other activities as deemed appropriate (summer workshops, short courses, weekend seminars or training sessions, on-the-job work experience, etc.). Such a program would enable many on-the-job park and recreation personnel to upgrade their abilities, capabilities, and earning power. It would also provide a route for those working in other jobs to become qualified in outdoor recreation management.

6. PHYSICAL FACILITIES, INSTRUCTIONAL AIDS AND EQUIPMENT.

6.1 Physical facilities.

The existing and projected facilities at the SUNY Agricultural and Technical College at Delhi will adequately satisfy the needs of the Outdoor Recreation Management program. A few guidelines follow.

6.11 Office Space.

The Director, full-time instructional staff, and administrative staff should be housed in one location. The Director should have an office separate from the staff to facilitate confidential meetings.

6.12 Classroom Space.

Classroom space needed for the programs includes:

A seminar-conference room
A lecture-demonstration classroom
A Grounds Maintenance Laboratory*
A Construction Skills Laboratory*
An Electrical and Mechanical Equipment Laboratory*

*Could all be located in the same physical space.

6.13 Library.

The college library should increase its holdings to include additional items relative to outdoor recreation management. The instructional and support staff should assist the acquisitions librarian in this endeavor. Section 9., provides a basic listing of library items.

6.14 Outdoor Facilities.

Outdoor facilities should be utilized to their fullest extent. The use of the Valley Campus Complex and nearby public and private recreation areas should be programmed into the instructional plan of each course whenever appropriate.

6.2 Instructional Aids and Equipment.

6.21 General Equipment and Supplies.

6.211 Audio-Visual Aids.

The instructional staff should have access to audio-visual aids as needed. Minimum audio-visual aids include:

Item	Number
16 MM. Projector with Screen	1
Overhead Projector	1
Slide Projector	1
Tape Recorder	1
35 MM. Single Lens Reflex Camera with attachments	1

6.212 Office Equipment.

The staff and students should have access to the following items:

Item	Number
Ditto Machine	1
Thermo-fax Copier	1
Xerox Copier or equivalent	1
Desk Calculators	5-10

6.213 Field Equipment.

The program requires certain items of field equipment. A representative listing includes:

Item	Number
4-wheel drive, 3/4 ton pickup truck	1
Staff automobile	1
Student conveyance (bus)	1
JD 2010 Crawler or equivalent with dozer blade	1
Farm tractor w/appropriate attachments	1
Snowmobiles	4
Chain saws	4
Tool Kits, Miscellaneous	2
First-aid Kits	4
Water Coolers, 5 gal.	2

6.22 Instructional Aids and Equipment for Specific Courses.

Several courses offered within the program require specialized instructional aids and equipment. A representative listing of necessary items, by course, follows.

6.221 Grounds Maintenance.

Mist sprayers and blowers
Tree injectors
Grass cutters
Miscellaneous tools
Miscellaneous expendable items such as chemicals, gas and oil, etc.

6.222 Maintenance Skills.

Miscellaneous tools

6.223 Electrical and Mechanical Equipment.

Miscellaneous tools

6.224 Natural Resources Management.

Hand Compasses, Silva Type 1 or equivalent
Staff Compasses, w/jacob staff
Diameter tapes
100' steel tapes
Increment borers, w/case
Biltmore Sticks
Topographic Abney Levels
Wedge Prisms
Tree Markers
Planting Bars
Indian Fire Pumps, Model 90, or equivalent
Fire Rakes
Pocket Stereoscopes
Miscellaneous Maps and Aerial Photos
Safety Caps or Hats
Miscellaneous Game Marking Devices and Equipment
Assorted Havahart traps
Assorted Animal traps
Tally Meters

6.225 Recreation Activities.

Canoes, 17', w/paddles and cushions

Canoe trailer, 3 tier
Sailboat
Rowboats, w/oars and cushions
Outboard Motor
Snowshoes
Cross-Country Skiis w/poles
Tents, 2-man
Equipment Wanagans
Kitchen Wanagans, complete
Kitchen tarps, 10' x 12'
Axes, 2 1/4 pound
Shovels, folding lamp
Packs or Duffle Bags
Archery Bows, w/arrow supply
Archery targets
Target Rifles, 22-cal.

6.226 Arts and Crafts.

Miscellaneous hand tools
Miscellaneous fasteners such as glue, nails, bands, etc.
Miscellaneous expendable items such as paper, ink, paint, etc.

6.227 Field Methods in History and Archeology.

Miscellaneous hand tools
Shovels and picks
Miscellaneous preservative materials.

7. DESCRIPTION OF COURSES

(GS) -- Courses offered or to be offered through General Studies Division.
(BM) -- Course offered or to be offered through Business Management Division.
(CT) -- Courses offered or to be offered through Construction Technology Division
(PE) -- Courses offered or to be offered through Physical Education.
(PS) -- Courses offered or to be offered through Plant Science.
(ORM)-- Courses to be offered through Outdoor Recreation Management.

* -- New Courses

7.1 Description of Courses -- General Education.

Quarter Plan	Semester Plan
English Composition - Review of basic English usage; expository writing with emphasis on organization, logic, and diction; technical writing with emphasis on short reports and business correspondence. Variable credit (GS)	English Composition - same as under quarter plan. Variable credit.
Public Speaking - Development of fundamentals of public speaking including extemporaneous and prepared speeches. 3 credits. 2 lec., 1 lab. (GS)	Public Speaking - same as under quarter plan. 3 credits. 2 lec., 1 lab.
Mathematics - Review of basic mathematical principles, natural numbers and their literal representation, fundamental concepts of algebra, basic statistical concepts. 3 credits. 3 lec. (GS)	Mathematics - same as under quarter plan. 3 credits. 3 lec.
College Algebra I - Basic algebraic concepts, radicals and exponents, introduction to functions and graphs, quadratic equations in one variable, logarithms and computations. 3 credits. 3 lec. (GS)	College Mathematics I- Combination of College Algebra I and II under quarter plan. 3 credits. 3 lec.

Quarter Plan	Semester Plan
College Algebra II - Systems of equations, ratio, proportion, variation, inequalities, complex numbers, theory of equations, permutations and combinations, and probability. 3 credits. 3 lec. (GS)	
Trigonometry - Trigonometric functions of angles, applications of right triangles, trigonometric functions of numbers, identities and equations, triangles, inverse functions. 3 credits. 3 lec. (GS)	College Mathematics II - Trigonometry course plus basic elements of statistics and statistical analysis. 3 credits. 3 lec.
Field Biology - A study of plant and animal life; identification of common forms, study of life cycles, habitat study, methods of collection and preservation. 4 credits, 2 lec., 2 labs. (GS)*	Field Biology - same as under quarter plan. 3 credits. 2 lec. 1 lab.
Ecology - Basic ecology outlining interrelationships between plants, animals, and the physical environment. Discussion of the concepts and processes involved. 4 credits. 2 lec. 2 labs. (GS)*	Ecology - same as under quarter plan. 3 credits 2 lec. 1 lab.
Conservation - The conservation movement; history, philosophy, objectives, trends, and practices. Conservation activities relative to soil, water, forest, fish, wildlife, air, mineral and human resources, 3 credits. 3 lec. (PS & ORM)	Conservation - same as under quarter plan. 3 credits. 3 lec.
Human Ecology - Discussion of man's impact on his environment and the impact of that environment on man. Topics include air pollution, water pollution,	Human Ecology - same as under quarter plan. 3 credits. 3 lec.

Quarter Plan	Semester Plan
radioactivity, over-population, resource depletion. 3 credits. 3 lec. (GS)	
Botany - Introduction to the Plant Kingdom; structure, function, development, classification; their place in the world and importance to man. 4 credits. 2 lec. 2 labs. (GS)	Botany - same as under quarter plan. 3 credits. 2 lec. 1 lab.
Zoology - Introduction to the Animal Kingdom; Overview of invertebrates and vertebrates; classification, structure, function, development, their place in the world and importance to man. 4 credits. 2 lec. 2 labs. (GS)*	Zoology - same as under quarter plan. 3 credits. 2 lec. 1 lab.
General Chemistry I, II, III - Fundamental principles of atomic structure,. bonding, chemical reactions, solutions, colloids, Energy relationships, electro-chemistry, oxidation and reduction, nuclear phenomena, descriptive study of principal element groups, Analytical chemistry, chemical equilibrium, qualitative analysis. 4 credits each, 12 total. 3 lec. 1 lab each. (GS)	General Chemistry I, II - same as under quarter plan. 4 credits each, 8 total. 3 lec. 1 lab each.
Physical Geography - Introduction to landforms, maps and serial photographs, climatic influences, soils and vegetation. 3 credits. 2 lec. 1 lab. (GS)*	Physical Geography - same as under quarter plan. 3 credits. 2 lec. 1 lab.
Introductory Psychology - A scientific approach to the study of behavior including physiology, development, motivation, emotion, perception, learning, social psychology, personality, and mental health. 3 credits. 3 lec. (GS)	Introductory Psychology - same as under quarter plan. 3 credits. 3 lec.

Quarter Plan	Semester Plan
General Psychology I, II, III - Study of behavior including those elements described in Introductory Psychology (above) plus additional factual data, statistics, and the experimental method. Application to personality including measurement and appraisal, theories of personality, adjustment and therapy. 3 credits each. Total 9. 3 lec. each. (GS)	General Psychology I, II - same as under quarter plan. 3 credits each. 6 total. 3 lec. each.
Human Relations - Sociological and Psychological elements involved in positive interaction with individuals and groups. 3 credits. 3 lec. (GS)*	Human Relations - same as under quarter plan. 3 credits. 3 lec.
General Sociology I, II, III - Major aspects of human society emphasizing culture, social organization, and group behavior. Advanced studies of society to include family life, religion, population, minorities, education, urban man, and political man. 3 credits each, Total 9. 3 lec. each. (GS)	General Sociology I, II - same as under quarter plan. 3 credits each, 6 total. 3 lec. each.
Economics I, II, III - Micro- and macroeconomics; price system, supply and demand, factors of production, production and income, fiscal and monetary policy, analysis of economic problems. 3 credits each, 9 total. 3 lec. each (GS)	Economics I, II - same as under quarter plan. 3 credits each. 6 total. 3 lec. each.
Introduction to American Government - Origins, growth and development of American political institutions, the Constitutions, evolution of governmental structure. 3 credits, 3 lec. (GS)	

Quarter Plan	Semester Plan
Public Administration - Examination of the organization of the public bureaucracy, implementation of public policy, the decision-making process, judicial review and executive and legislative control of administrative action. 3 credits. 3 lec. (GS)	Public Administration - same as under quarter plan. 3 credits. 3 lec.
Basic Graphics - Introduction to drafting techniques; lettering, principles of geometric constructions, orthographic drawing, auxiliary views, descriptive geometry, isometric drawing, freehand drawing and perspective drawing. 3 credits. 1 lec., 2 labs. (CT)	Basic Graphics - same as under quarter plan. 3 credits. 1 lec. 2 labs.
Land Surveying - Field and office procedures in plane surveying. Care and use of surveying instruments. Route and area surveying, calculation of area, closed traverse corrections. Flat map drafting. 4 credits. 2 lec. 2 labs. (CT)	Land Surveying - same as under quarter plan. 3 credits. 1 lec. 2 labs.
Safety and First Aid - Standard and advanced American Red Cross first aid courses with emphasis on safety aspects related to outdoor recreation activities. 1 credit. 1 lec. (PE)	Safety and First Aid - same as under quarter plan. 1 credit. 1 lec.
Physical Education - rules, fundamental skills and game knowledge of miscellaneous sports and activities. Variable credit. (PE)	Physical Education - same as under quarter plan. Variable credit.

7.2 Description of Courses -- Professional-Technical Studies.

Quarter Plan	Semester Plan
Introduction to Outdoor Recreation - An overview of outdoor recreation, history and philosophy of recreation, trends in outdoor recreation, employment possibilities. 3 credits. 3 lec. (ORM)*	Introduction to Outdoor Recreation - same as quarter plan except greater depth possible. 3 credits. 3 lec.
Grounds Maintenance - planning maintenance; planting and care of trees and shrubs; growing and maintaining turf; maintenance equipment; weed control; soil erosion practices; roads, trails and parking areas; maintenance practices. 4 credits. 2 lec. 2 labs. (PS)	Grounds Maintenance - same as quarter plan. 3 credits. 2 lec. 1 lab.
Maintenance Skills - Development of artisan skills; carpentry, masonry, plumbing, electrical installation, waste disposal. 3 credits. 1 lec. 2 labs. (CT & ORM)*	Maintenance Skills - A combination of the Maintenance Skills and Electrical and Mechanical Equipment courses under the quarter plan. 3 credits. 1 lec. 2 labs.
Electrical and Mechanical Equipment - Installation, operation, and maintenance of electrical and mechanical equipment such as pumps, motors, power tools, etc. 3 credits. 1 lec. 2 labs. (CT & ORM)*	
Natural Resources Management - Discussion of concepts and management practices involved in the management of forests, water, wildlife and land. Development of simple management skills. 4 credits. 2 lec. 2 labs. (ORM & PS)*	Natural Resources Management - same as under quarter plan. 3 credits. 2 lec. 1 lab.
Outdoor Recreation Management - Operational aspects of outdoor recreation management; visitor impact, visitor services and pub-	Outdoor Recreation Management - same as quarter plan except greater depth

Quarter Plan	Semester Plan
lic relations, law enforcement, liability, concessions and leases, management plans and planning. 3 credits. 3 lec. (ORM)*	possible. 3 credits. 3 lec.
Outdoor Recreation Administration - Administrative aspects of operating outdoor recreation areas and facilities; personnel management, scheduling, budgeting and finance, policy formulation. 3 credits. 3 lec. (ORM)*	Outdoor Recreation Administration - same as quarter plan, except greater depth possible. 3 credits. 3 lec.
The Recreation Business - Operational aspects of private recreation business enterprises; factors of success, visitor services and public relations, budgeting and finance, accounting and taxes, advertising, liability and insurance, health and safety. 3 credits. 3 lec. (ORM & BM)*	The Recreation Business - same as quarter plan, except greater depth possible. 3 credits. 3 lec.
Recreation Site Design Fundamentals - Analysis of facility design with emphasis on site selection facility construction, and functional use. Field visits to recreation facilities. 4 credits. 2 lec. 2 labs. (ORM & CT)*	Recreation Site Design Fundamentals - same as quarter plan. 3 credits. 1 lec. 2 labs.
Interpretive Methods - Techniques for the interpretation of natural and cultural history to visitors. Design of interpretive trails, museums, sign and other interpretive devices. 3 credits. 2 lec. 1 lab. (ORM)*	Interpretive Methods - same as quarter plan. 2 credits. 1 lec. 1 lab.
Introduction to the Arts - the role of drama, music, and dance in recreation programs. Development of skills in song leadership; direction and production of	Introduction to the Arts - same as under quarter plan. 3 credits. 2 lec. 1 lab.

Quarter Plan	Semester Plan
skits, plays, and musical drama; develop repertoire of folk songs and dances. 3 credits. 2 lec. 1 lab. (PE)*	
Woody Plant Materials - The identification, characteristics, adaptations, and requirements of common native and exotic woody plants used as ornamentals, including trees, shrubs, vines, and ground cover. 4 credits. 2 lec. 2 labs. (PS)	Woody Plant Materials - same as under quarter plan. 3 credits. 2 lec. 1 lab.
Camp Leadership - Basic principles of camp counseling, the camper, counselor duties and responsibilities, and leadership development. To be used as an elective by students who are seeking summer camp employment as counselors. 1 credit. 1 lec. (ORM & PE)*	Camp Leadership - same as under quarter plan. 1 credit. 1 lec.
Recreation Activities I - Familiarization with skills in horsemanship, cycling, archery, riflery, angling. 3 credits. 1 lec. 2 labs. (PE & ORM)*	Recreation Activities I - combination of Recreation Activities I and skills in skiing, snowmobiling, and snowshoeing from Recreation Activities II under quarter plan. 3 credits. 1 lec. 2 labs.
Recreation Activities II - Familiarization with skills in winter camping, cross-country and alpine skiing, ice skating, tobogganing, snowshoeing, snowmobiling. 3 credits. 1 lec. 2 labs. (PE & ORM)*	Recreation Activities II - combination of remaining activities from Recreation Activities II and Recreation Activities III under quarter plan. 3 credits. 1 lec. 2 labs.

Quarter Plan	Semester Plan
Recreation Activities III - Familiarization with skills in campcraft and woodslore, swimming, boating, canoeing, sailing, hiking, mountain climbing. 3 credits. 1 lec. 2 labs (PE & ORM)*	
Campfire Activities - Design and construction of campfire circles, program techniques, song leadership, skits, Indian dancing, story telling, develop repertoire of songs and stories. 2 credits. 1 lec. 1 lab. (ORM)*	Campfire Activities - same as under quarter plan. 1 credit. 1 lab.
Camp Administration - Policies, procedures, and practices in the supervision, organization, and administration of organized camping. 4 credits. 3 lec. 1 lab. (PE & ORM)*	Camp Administration - same as quarter plan, 3 credits. 2 lec. 1 lab.
Recreation Leadership - principles and methods of program planning, group leadership techniques, supervision of recreation programs. 3 credits. 3 lec. (PE & ORM)*	Recreation Leadership - same as under quarter plan, except greater depth possible. 3 credits. 3 lec.
Arts and Crafts - basic skills and teaching techniques in the creation of objects from natural materials. 2 credits. 1 lec. 1 lab. (PE & ORM)*	Arts and Crafts - same as under quarter plan. 1 credit. 1 lab.
Field Methods in History and Archeology - techniques and methods used in the location, collection, and preservation of historical and archeological items. 2 credits. 1 lec. 1 lab. (ORM & GS)*	Field Methods in History and Archeology - same as under quarter plan. 1 credit. 1 lab.
On-the-Job Training - Supervised work experience. Can be satisfied through approved summer employment or assigned work at local	On-the-Job Training - same as under quarter plan. 6 credits.

Quarter Plan	Semester Plan
recreation areas. 10 credits. (ORM)*	
Special Studies in Outdoor Recreation - Enables students to investigate studies of interest important to his projected employment needs. Topic and credit established by the student in consultation with his advisor or supervising professor. 1-3 credits (ORM)*	Special Studies in Outdoor Recreation - same as under quarter plan. 1-3 credits.
Senior Seminar - an integrative seminar for Seniors. Discussion of current topics of interest with emphasis on the integration of previous studies as a basis for critical analysis and decision making. 1 credit. 1 lab. (ORM)*	Senior Seminar - same as under quarter plan. 1 credit. 1 lab.

8. OUTLINE OF PROFESSIONAL - TECHNICAL & RELATED COURSES

A basic outline for each professional-technical & Related Course recommended for the Outdoor Recreation Management program is given below, including pertinent references. References marked with an asterisk (*) are potential course texts. The current price of each potential text is shown in parenthesis following the full citation in Section 9.2.

8.1 General Courses.

8.11 Introduction to Outdoor Recreation.

8.111 Course Outline.

A. Definitions
B. History of Recreation
C. Philosophics of Recreation
D. Demand for Outdoor Recreation
E. Outdoor Recreation Areas & Facilities
    1. Local
    2. State
    3. Federal
    4. Private
F. Trends in Outdoor Recreation
G. Outdoor Recreation as a field of work
    1. Types of employment
    2. Employment qualifications

8.112 References.

Brightbill; Man and Leisure.
Brockman; Recreational Use of Wild Lands.
Bureau of Outdoor Recreation; Federal Focal Point in Outdoor Recreation.
Bureau of Outdoor Recreation; A Directory of Private Organizations Providing Assistance in Outdoor Recreation.
Bureau of Outdoor Recreation; Outdoor Recreation Trends.
Bureau of Outdoor Recreation; Guides to Outdoor Recreation Areas and Facilities.

Bureau of Outdoor Recreation; Federal Assistance in Outdoor Recreation.

Bureau of Outdoor Recreation; Private Assistance in Outdoor Recreation.

Bureau of Outdoor Recreation; Federal Outdoor Recreation Programs.

*Carlson, Deppe, and MacLean; Recreation in American Life.

Doell & Fitzgerald; A Brief History of Parks & Recreation in the US.

Leopold; A Sand County Almanac.

*Miller and Robinson; The Leisure Age.

Outdoor Recreation Resources Review Commission; Outdoor Recreation for America.

Park Practice; Trends.

Park Practice; Guidelines.

Park Practice; Grist.

Udall; The Quiet Crises.

*Yukic; Fundamentals of Recreation.

Zeigler; Philosophical Foundations for Physical, Health, and Recreation Education.

8.12 Senior Seminar.

8.121 Course Outline.

Unstructed discussions of contemporary problems.

8.122 References.

Bates; The Forest and the Sea.

Brightbill; Man and Leisure.

Laird; The Technique of Building Personal Leadership.

Leopold; A Sand County Almanac.

Miller and Robinson; The Leisure Age.

Park Practice; Trends.

Park Practice; Guidelines.

Storer; Man in the Web of Life.

Department of the Army; Military Leadership.

8.2 Resource-oriented Courses.

8.21 Outdoor Recreation Management.

8.211 Course Outline.

A. Definitions

B. The Recreation Visitor

   1. Characteristics.

   2. Activities and participation.

   3. Impact.

C. Visitor Services

D. Public Relations

E. Policy, Rules & Regulations & their Enforcement

F. Areas and Facilities Management

G. Areas and Facilities Maintenance

H. Concessions and Leases

I. Management Plans and Planning

8.212 References.

Burch and Wenger; The Social Characteristics of Participants in Three Styles of Family Camping.

Boy Scouts of America; Lost.

Bureau of Outdoor Recreation; Outdoor Recreation Planning for the Handicapped.

Department of the Army; The Military Policeman.

Department of the Army; Military Police Traffic Control.

Doell; Elements of Park and Recreation Administration.

Douglass; Forest Recreation.

Gilbert; Public Relations in Natural Resources Management.

James; Instructions For Using Traffic Counters to Estimate Recreation Visits and Use on Developed Sites.

*Park Practice; Trends.

*Park Practice; Guidelines.

*Park Practice; Grist.

Stephenson; Handbook of Public Relations.

Wagar; Campgrounds For Many Tastes.

Wagar; Estimating Numbers of Campers on Unsupervised Campgrounds.

8.22 Outdoor Recreation Administration.

8.221 Course Outline.

- A. Preliminary Considerations
  - 1. Definitions
  - 2. Standards
- B. Administrative Planning
- C. Personnel & Personnel Management
- D. Scheduling
- E. Financial Administration.
  - 1. Budgets
  - 2. Accounting
  - 3. Cost Accounting
- F. Policy & Policy Formulation.

8.222 References.

Bureau of Outdoor Recreation; Recreation Land Price Escalation.

Bureau of Outdoor Recreation; Outdoor Recreation Space Standards.

*Doell; Elements of Park and Recreation Administration.

Gilbert; Public Relations in Natural Resources Management.

Grant & Bell; Basic Accounting and Cost Accounting.

Meyer and Brightbill; Recreation Administration; A Guide to its Practices.

*Park Practice; Trends.

*Park Practice; Guidelines.

*Park Practice; Grist.

Parker; Human Relations in Supervision.

Pigors, Meyers & Malm; Management of Human Resources.

8.23 Recreation Site Design Fundamentals.

8.231 Course Outline.

- A. Definitions.
- B. Design fundamentals.
  - 1. Principles of Design.
  - 2. Design Planning.
  - 3. Types of Design Plans.
  - 4. Design symbology.

C. Site Designs.
    1. Ecological Considerations.
    2. Physical Site considerations.
D. Site Selection.
E. Design of Areas and Facilities.
F. Blueprint Reading.
G. Field Trips to nearby Recreation Areas and Facilities.
    1. Local Community.
    2. State.
    3. Private.

8.232 References.

American Camping Association; Conservation of the Camp Site.
Ashbaugh; Trail Planning and Layout.
Bureau of Outdoor Recreation; Outdoor Recreation Space Standards.
Department of the Army; Military Sanitation.
*Department of the Navy; Blueprint Reading and Sketching.
Forbes; Forestry Handbook.
Outboard Boating Club of America; Launching Ramps and Piers.
Outboard Boating Club of America; Facilities file.
*Park Practice; Design.
Park Practice; Grist.
Taylor; Camp Stoves and Fireplaces.
*Public Health Service; Environmental Health Practice in Recreational Areas.

8.24 Maintenance Skills.

8.241 Course Outline.

Note: This course is divided into two separate courses under the quarter plan, i.e., maintenance skills and Electrical & Mechanical Equipment.

A. Definitions.
B. Shop & Maintenance Procedures.
    1. Drawings and blueprints.
    2. Templates and patterns.
    3. Scheduling.

C. Bench Work.
  1. Hand & machine tools.
  2. Use & maintenance of tools.
D. Carpentry skills.
E. Masonry skills.
F. Plumbing skills.
G. Electrical Installation skills.
H. Electrical Equipment.
  1. Alternating current machines.
  2. Motors & pumps.
  3. Operation & maintenance of mechanical equipment.
I. Mechanical Equipment.
  1. Gasoline & diesel engines.
  2. Automobile trouble-shooting.
  3. Operation & maintenance of mechanical equipment.
J. Waste & Sewage Disposal.
K. Water Supply Systems

8.242 References.

American Pulpwood Association; *Small Crawler Operator's Handbook*.
American Pulpwood Association; *Power Saw Operator's Notebook*.
Angier; *How to Build Your House in the Woods*.
Ashbaugh; *Trail Planning and Layout*.
Buban & Schmidt; *Explanatory Electricity & Electronics*.
Department of the Army; *Military Sanitation*.
Department of the Navy; *Blueprint Reading and Sketching*.
Dolzell; *Simplified Masonry Planning and Building*.
Forbes; *Forestry Handbook*.
James; *Shopwork on the Farm*.
Kellogg; *Construction Methods and Machinery*.
Lair; *Carpentry for the Building Trade*.
*Merritt; *Building Construction Handbook*.
Park Practice; *Design*.
Park Practice; *Grist*.
Park Practice; *Guidelines*.

Public Health Society; Environmental Health Practice in Recreational Areas.

Steele; Water Supply and Sewerage.

8.25 Natural Resources Management.

8.251 Course Outline.

- A. Definitions.
- B. Management Basics.
  - 1. Land and land surveys.
  - 2. Maps and map-making.
  - 3. Aerial photo interpretation.
  - 4. Soils and water.
  - 5. Vegetation.
  - 6. Wildlife.
- C. Forest Management.
  - 1. Forest measurements & cruising.
  - 2. Forest protection.
  - 3. Applied silviculture.
  - 4. Harvesting.
  - 5. Reforestation.
- D. Wildlife Management.
  - 1. Fundamentals.
  - 2. Forest & field management.
    - a. upland gamebirds.
    - b. small game & fur bearers.
    - c. big game.
  - 3. Water Areas management.
    - a. marsh & swamp wildlife management.
    - b. waterfowl management.
    - c. fish management.
  - 4. Game and Fish propagation.
- E. Watershed Management.
  - 1. Climatic factors.
  - 2. Runoff & streamflow.
  - 3. Erosion & erosion control.

8.252 References.

Allen; Our Wildlife Legacy.
Allen & Leonard; Conserving Natural Resources.
Bartelli, et. al.; Soil Surveys & Land Use Planning.
Black; Biological Conservation.
Chapman; Forest Management.
Dasmann; Wildlife Biology.
Dasmann; Environmental Conservation.
*Forbes; Forestry Handbook.
Foster; Approved Practices in Soil Conservation.
Grosenbaugh; Shortcuts for Cruisers and Scalers.
Hawley & Smith; The Practice of Silviculture.
Meyer; Forest Mensuration.
Spurr; Forest Inventory.

8.26 Grounds Maintenance.

8.261 Course Outline.

A. Introduction to Grounds Maintenance.
    1. Definitions.
    2. Maintenance planning.
B. Turf & Turf Management.
C. Trees & Shrubs.
D. Grounds Maintenance Equipment.
E. Protection.
    1. Disease.
    2. Insect.
    3. Fire.
    4. People.
F. Weeds.
G. Soil Maintenance.

II. Maintenance of Facilities.
  1. Roads & parking areas.
  2. Water areas.
  3. Camp & picnic areas.
  4. Other facilities.

8.262 References.

Adriance & Brison; Propagation of Horticultural Plants.

*Conover; Grounds Maintenance.

Craighead; Insect Enemies of Eastern Forests.

Denisen & Nichols; Laboratory Manual in Horticulture.

Edmond, Senn & Andrews; Fundamentals of Horticulture.

Fogg; Weeds of Lawn and Garden.

Forbes; Forestry Handbook.

Isely; Weed Identification and Control.

Kohnke & Bertrand; Soil Conservation.

Li; Origin and Cultivation of Shade and Ornamental Trees.

Musser; Turf Management.

Park Practice; Design.

Park Practice; Guidelines.

Park Practice; Grist.

8.27 Woody Plant Materials.

8.271 Course Outline.

A. Basic Considerations.
  1. The plant kingdom.
  2. Definitions.
  3. Identification procedures.

B. Coniferous Plants.
  1. Identification.
  2. Characteristics.
  3. Requirements.

C. Deciduous Plants.
  1. Identification.
  2. Characteristics.
  3. Requirements.

8.272 References.

*Harlow; Fruit Key & Twig Key.

*Harlow; Trees of the Eastern and Central US and Canada.

Li; Origin and Cultivation of Shade and Ornamental Trees.

*Viertel; Trees, Shrubs and Vines.

8.3 Program-Oriented Courses.

8.31 Recreation Leadership.

8.311 Course Outline.

A. Definitions.
B. Recreation Leadership & Group Dynamics.
    1. Theory of recreation leadership.
    2. Groups and group dynamics.
    3. Guidelines for leadership.
C. Recreation Program.
    1. Planning fundamentals.
    2. Programs for various groups.
    3. Scheduling.
D. Program Activities.
    1. Games.
    2. Sports.
    3. Nature.
    4. Outdoor.
    5. Arts & crafts.
E. Working with Volunteer Leaders.

8.312 References.

Bureau of Outdoor Recreation; Outdoor Recreation Planning for the Handicapped.

Butler; Introduction to Community Recreation.

Coobin; Recreation Leadership.

*Kraus; Recreation Leader's Handbook.

Kraus; Recreation Today.

Smissen & Goering; A Leader's Guide to Nature-Oriented Activities.

*Vannior; Methods and Materials in Recreation Leadership.

Vinal; Nature Recreation.

8.32 Recreation Activities.

Note: Recreation Activities is separated into three separate courses. Each course provides a familiarization of certain outdoor recreation activity skills and develops the ability to teach basic skills to others.

8.321 Course Outline.

A. Recreation Activities I.
   1. Horsemanship.
   2. Cycling.
   3. Archery.
   4. Riflery.
   5. Angling.

B. Recreation Activities II.
   1. Winter camping & woodslore.
   2. Cross-country skiing.
   3. Alpine skiing.
   4. Ice skating.
   5. Tobagganing.
   6. Snowshoeing.
   7. Snowmobiling.

C. Recreation Activities III.
   1. Campcraft and woodslore.
   2. Swimming.
   3. Boating.
   4. Canoeing.
   5. Sailing.
   6. Hiking.
   7. Mountain Climbing.

8.322 References.

American Association for Health, Physical Education, and Recreation; Casting and Angling.

American Association for Health, Physical Education, and Recreation; Shooting and Hunting.

Angier; Living off the Country.

Armbruster, Allen & Billingsley; Swimming and Diving.

Boy Scouts of America; Merit Badge Series - Archery; Camping; Canoeing; Cycling; Fishing; Hiking; Horsemanship; Life Saving; Marksmanship; Pioneering; Skiing.

Clein & Sanders; Beginning Skiing.

Cunningham & Hansson; Lightweight Camping Equipment.

Edgren & Peterson; The Fun in Winter Camping.

Elvedt; Canoeing A-Z.

Gillelan; Modern ABC's of Bow and Arrow.

Jaeger; Wildwood Wisdom.

Lynn; Golden Book of Camping and Camp Crafts.

"Nessmuk"; Woodcraft.

Niemeyer; Beginning Archery.

Orr; A Manual of Riding.

Pohndorf; Camp Waterfront Management & Programs.

Ski Magazine; The Skier's Handbook.

Stebbins; Teaching Kids to Shoot.

Storm; A Sailing Manual.

Vannier; Methods and Materials in Recreation Leadership.

Vinal; Nature Recreation.

Welch; When You Are in the Woods.

8.33 Introduction to the Arts.

8.331 Course Outline.

A. Definitions
B. Recreational Drama
C. Recreational Music and Song Leadership
D. Recreational Dancing
E. Integration of Drama, Music and Dance into Outdoor Recreation Program.

8.332 References.

Coobin; Recreation Leadership.

Hall; Complete Guide to Social, Folk and Square Dancing.

Kraus; Recreation Leader's Handbook.

Kraus; Recreation Today.

Riel & Davis; Happy Dancing.

Turner; Dance Handbook.

Vannier; Methods and Materials in Recreation Leadership.

8.34 Arts & Crafts.

8.341 Course Outline.

A. Tools & Materials
B. Nature Crafts
C. Indian Arts & Crafts
D. Camp Crafts
E. Whittling
F. Leather Crafts
G. Wood Crafts
H. Metal Crafts

8.342 References.

Bale; Creative Nature Crafts.

Benson & Franksen; Creative Nature Crafts.

Hunt; The Golden Book of Indian Crafts and Lore.

*Hunt; The Golden Book of Crafts and Hobbies.

Jaeger; Wildwood Wisdom.

Lynn; The Golden Book of Camping and Camp Craft.

*Morgan; Tools & How to Use Them.

Norbeck; Indian Crafts for Campers.

8.4 Miscellaneous Courses.

8.41 Interpretive Methods.

8.411 Course Outline.

A. Initial Considerations
  1. Definitions
  2. Basic principles of interpretation
  3. Fundamentals of communication
  4. Leadership in the field

B. Essentials of Effective Interpretation
   1. Geological
   2. Flora & fauna
   3. Historical & archeological

C. Guidelines
   1. Use of written word
   2. Non-illustrated talks
   3. Illustrated talks
   4. Self-guiding trails
   5. Visitor centers & museums
   6. Natural areas
   7. Urban areas
   8. Underwater trails

8.412 References.

Ashbaugh; Planning a Nature Center.
Ashbaugh; Trail Planning & Layout.
Coleman; Manual for Small Museums.
Gilbert; Public Relations in Natural Resources Management.
Guthe; The Management of Small History Museums.
Linton; Photographing Nature.
National Park Service; Field Manual for Museums.
*National Park Service; Talks.
*National Park Service; Campfire Programs.
Nickelsburg; Field Trips.
Park Practice; Design.
Park Practice; Grist.
Park Practice; Guidelines.
Park Practice; Trends.
*Tilden; Interpreting Our Heritage.
*Shomon; Manual of Outdoor Interpretation.
United States Forest Service; Developing the Self-Guiding Trail in the National Forest.
Vinal; Nature Recreation.

8.42 Campfire Activities.

8.421 Course Outline.

- A. Definitions
- B. Fundamentals of Campfire Development
    - 1. Spirit of the campfire
    - 2. The campfire circle
    - 3. The campfire
    - 4. Starting the campfire
- C. Campfire Activities
    - 1. Ceremonies
    - 2. Noisy activities
    - 3. Games & contests
    - 4. Stunts
    - 5. Indian dancing
    - 6. Stories & storytelling
    - 7. Songs & song leadership

8.422 References.

MacFarlan; Treasure of Memorymaking Campfires.

*National Park Service; Talks.

*National Park Service; Campfire Programs.

Salomon; A Book of Indian Crafts & Indian Lore.

Seton; Rhythm of the Redman.

*Thurston; Good Times Around the Campfire.

Vinal; Nature Recreation.

Zander & Klusmann; Camp Songs 'n' things.

8.43 Camp Administration.

8.431 Course Outline.*

- A. Background of the Camping Movement
- B. Aims and Objectives of Camping
- C. Camp Organization and Structure
- D. Personnel
- E. Program

* from ACA Camp Administration Course Outline

- F. Selection and Development of Camp Site
- G. Business Management
- H. Health & Safety
- I. Public Relations
- J. Camp Committees & Boards
- K. Evaluation
- L. The Camp Director
- M. Outdoor Education and School Camping

8.432 References.

American Camping Association; Camp Administration Course Outline.
American Camping Association; ACA Standards.
American Camping Association; Conservation of the Camp Site.
Berger; Program Activities for Camps.
Cowle; Day Camping.
Dimock; Administration of the Modern Camp.
McBride; Camping at the Mid-Century.
Nickelsburg; The Nature Program at Camp.
Pohndorf; Camp Waterfront Management & Programs.
*Webb; Light from a Thousand Campfires.

8.44 Camp Leadership.

8.441 Course Outline.*

- A. Background of the Camping Movement
- B. Aims and Objectives of Camping
- C. The Camper
  - 1. As an individual
  - 2. As a group member
- D. The Counselor
  - 1. The counselor and his job
  - 2. Leadership
  - 3. Specific responsibilities

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* from ACA; Camp Counseling Course Outline

E. Camp Program
   1. Characteristics & determinants
   2. Program planning
   3. Program areas
F. Outdoor skills

8.442 References.

American Camping Association; Camp Counseling Course Outline.
*Hartwig; Workbook for Camp Counseling Training.
Hartwig and Myers; Even at Camp.
Hartwig and Myers; So the Counselors Are Puzzled.
Hartwig and Myers; If the Counselors Really Know Them.
Hartwig and Myers; Are the Counselors Prepared.
Mitchell and Crawford; Camp Counseling.
*Northway and Lawes; The Camp Counselor's Book.

8.45 The Recreation Business.

8.451 Course Outline.

A. The Recreation Business
   1. Principles
   2. Factors of success
B. Opportunities
   1. Vacation farms and ranches
   2. Campgrounds and picnic areas
   3. Fishing and hunting areas
   4. Special interest areas
C. Feasibility Study
D. Planning & Developing the Business
   1. Planning
   2. Areas and facilities
E. Maintenance & Operation
   1. Public relations
   2. Advertising
   3. Maintenance
   4. Business management

8.452 References.

*Cornwall; Conducting a Feasibility Study for an Outdoor Recreation Enterprise.

*Cornwall and Holcolm; Guidelines for Planning, Developing and Managing Rural Recreation Enterprises.

Kappel; Vitality in a Business Enterprise.

LaPage; Successful Private Campgrounds.

LaPage; The Role of Customer Satisfaction in Managing Commercial Campgrounds.

LaPage; The Role of Fees in Campers' Decisions.

McGuire; Business and Society.

*Montville; How to Plan the Recreation Enterprise.

Park Practice; Design.

Park Practice; Grist.

Park Practice; Guidelines.

Parker; Human Relations in Supervision.

*Smith, Partain & Champlin; Rural Recreation for Profit.

Task Force; Rural Recreation.

8.46 Field Methods in History and Archeology.

8.461 Course Outline.

A. Introduction
  1. Definitions
  2. Concepts
B. Site Surveys
  1. Aerial
  2. Areal
  3. Mapping
C. Excavation
D. Artifact Collection & Recording
  1. Excavation
  2. Location recording
  3. Collection
  4. Preservation
  5. Packing for movement

E. Field Photography

F. Records & Reports

8.462 References.

Barghoon; "Collecting and Preserving Botanical Materials of Archeological Interest."

Coleman; *Manual for Small Museums*.

Guthe; *The Management of Small History Museums*.

Gyermek; "Conservation of Ethnological Materials"

*Hiezer and Graham; *A Guide to Field Methods in Archeology*.

*Meighan; *The Archeologist's Note Book*.

Sheppard; *Archeology*.

United States Department of Housing and Urban Development; *Preserving Historical America*.

National Park Service; *Field Manual for Museums*.

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9.1 General References.

1. Advisory Council on Vocational Education, 1968, Vocational Education, Government Printing Office, Washington, 220 pp.
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3. Brightbill, Charles K., 1964, "Education for Recreation Leadership", Proceedings of the National Conference on Professional Education in Outdoor Recreation. p. 103-112.
4. Bury, R.L., 1968, A Proposed Group of Courses in Wildland Recreation Management Keyed to Field Needs. Department of Recreation & Parks, Texas A & M University, College Sta. mimeo. 61 pp.
5. Charters, W.W. & V.W. Fry, 1942, The Ohio Study of Recreation Leadership Training. Bureau of Educational Research Mimeographs, No. 2, Ohio State University, Columbus, 173 pp.
6. Commission on Goals for American Recreation, 1964. Goals for American Recreation. AAHPER, Washington. 48 pp.
7. Committee on Educational Policies, 1958, Recommendations on Undergraduate Curricula in the Biological Sciences. National Academy of Science Publication 578, 86 pp.
8. Dana, S.T., 1969, Education and Outdoor Recreation (USDI, BOR) Government Printing Office, Washington. 47 pp.
9. DeKay, Bernard, 1969, Personal Communication. (NYS Conservation Department)
10. Doll, Ronald C., 1964, Curriculum Improvement: Decision-Making & Process. Allyn & Bacon, Boston. 337 pp.
11. Dressel, Paul L., 1963, The Undergraduate Curriculum in Higher Education. The Center for Applied Research in Education, Inc., Washington, 110 p.
12. Harris, Norman C., 1964, Technical Education in the Junior College. American Association of Junior Colleges, Washington, 102 pp.
13. Keats, John, 1963, The Sheepskin Psychosis. Dell, New York, 157 pp.
14. National Recreation & Park Association, 1968, Educating Tomorrow's Leaders in Parks, Recreation and Conservation. NRPA, Washington. 37 pp.
15. National Recreation Education Accreditation Project, 1968, "Standards and Evaluative Criteria. Mimeo. unnumbered.
16. Neagley, Ross L. & N. Dean Evans, 1967, Handbook for Effective Curriculum Development. Prentice-Hall, Inc., Englewood Cliffs, N.J. 345 p.
17. Ozmon, Howard, 1967, Challenging Ideas in Education. Burgess, Minneapolis, Minn. 240 pp.
18. Panel on Natural Resource Science, 1967, Undergraduate Education in Renewable Natural Resources. National Academy of Science Publication 1537. 28 pp.
19. Phenix, Philip H., 1961, Education and the Common Good. Harper & Bros., 271 pp.

20. Romilly, E.P., 1950, "In-Service Training for Park Employees." Recreation XLIV (5): 250-254.
21. Shiner, J.W. and Wagner, D.C., 1969, Employment Potential. SUNY College of Forestry, Syracuse, New York, Mimeo. 2 pp.
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23. U.S. Department of Health, Education and Welfare, 1968, Forest Technology. A suggested 2-year post high school curriculum. Government Printing Office, Washington. 142 pp.
24. _____, Criteria for Technician Education. Government Printing Office, Washington. 84 pp.
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26. Wilkins, Bruce, 1969, Personal Communication. (Cornell University, Ithaca, New York)
27. Yelle, Raymond, 1968, Personal Communication. (SUNY Agricultural and Technical College at Alfred, New York)

9.2 Professional-Technical Course References.

Note: Those references marked with an asterisk (*) are potential course texts. A summary of potential texts is given in section 9.3.

1. Adriance, G.W. & F.R. Brison, 1955, Propagation of Horticultural Plants. McGraw-Hill, New York. 298 pp.
2. Allen, D.L., 1962, Our Wildlife Legacy, (Revised Edition) Funk & Wagnalls, New York. 432 pp.
3. Allen, S.W. & J.W. Leonard, 1966, Conserving Natural Resources, (3rd Edition) McGraw-Hill, New York. 448 pp.
4. American Association for Health, Physical Education, and Recreation, 1958, Casting and Angling. AAHPER, Washington. 52 pp.
5. _____, 1960, Shooting and Hunting. AAHPER, Washington. 96 pp.
6. American Camping Association, ACA Standards, ACA, Martinsville, Ind.
7. _____, 1960, Conservation of the Camp Site. ACA, Martinsville, Ind. 36 pp.
8. _____, 1961, Camp Administration Course Outline. ACA, Martinsville, Ind., 29 pp.
9. _____, 1962, Camp Counselor Course Outline. ACA, Martinsville, Ind., 21 pp.
10. American Pulpwood Association, Small Crawler Operator's Handbook. APA, N.Y. 40 pp.
11. _____, Power Saw Operator's Notebooks. APA, N.Y. 42 pp.
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13. _____, 1956, Living off the Country. Stackpole, Harrisburg, Pa. 285 pp.
14. Armbruster, D.A., R.H. Allen & H.S. Billingsley, 1968, Swimming and Diving, (5th Edition) C.V. Mosby, St. Louis, Mo. 372 pp.
15. Ashbaugh, B.L., 1963, Planning a Nature Center, National Audubon Society, N.Y. 87 pp.

16. Ashbaugh, B.L., 1965, Trail Planning and Layout. National Audubon Society, N.Y. 103 pp.

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18. Barghoon, E.S., 1944, "Collecting and preserving botanical materials of archeological interest." American Antiquity, 9 (3) p. 289-294.

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21. Benson, K.R. & C.E. Franksen, 1968, Creative Nature Crafts. Prentice-Hall, Englewood Cliffs, N.J. 97 pp.

22. Berger, H.J., 1961, Program Activities for Camps. Burgess, Minneapolis, Minn. 150 Cards.

23. Black, J.D., 1954, Biological Conservation. McGraw-Hill, N.Y. 328 pp.

24. Boy Scouts of America, 1951, Lost. BSA, New Brunswick, N.J. 28 pp.

25. _____, Merit Badge Series: Archery; Camping; Canoeing; Cycling; Fishing; Hiking; Horse-manship; Life saving; Marksmanship; Pioneering; Skiing. BSA, New Brunswick, N.J.

26. Brighthill, C.K., 1961, Man and Leisure. Prentice-Hall, Englewood Cliffs, N.J. 292 pp.

27. Brockman, C.F., 1959, Recreational Use of Wild Lands. McGraw-Hill, N.Y. 346 pp.

28. Buban, P. & M. Schmidt, 1967, Exploratory Electricity & Electronics, McGraw-Hill, N.Y. 106 pp.

29. Burch, W.R. Jr. & W.D. Wenger, Jr., 1967, The Social Characteristics of Participants in Three Styles of Family Camping. U.S. Forest Service Research Paper. PNW-48. 30 pp.

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31. _____, Federal Focal Point in Outdoor Recreation. Government Printing Office, Washington. 75 pp.

32. _____, 1967, Outdoor Recreation Planning for the Handicapped. Government Printing Office, Washington. 34 pp.

33. _____, Outdoor Recreation Space Standards. Government Printing Office, Washington. 67 pp.

34. _____, Recreation Land Price Escalation. Government Printing Office, Washington, 33 pp.

35. _____, Outdoor Recreation Trends. Government Printing Office, Washington. 24 pp.

36. _____, 1968, Federal Outdoor Recreation Programs. Government Printing Office, Washington. 224 pp.

37. _____, Private Assistance in Outdoor Recreation. Government Printing Office, Washington. 68 pp.

38. _____, Federal Assistance in Outdoor Recreation. Government Printing Office, Washington. 99 pp.

39. _____, Guides to Outdoor Recreation Areas and Facilities. Government Printing Office, Washington. 116 pp.

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*47. _____ & C.J. Holcomb (eds.), 1966, Guidelines to Planning, Developing and Managing Rural Recreation Enterprises. (Cooperative Extension Service, Bulletin 301) Blacksburg, Virginia. 424 pp. ($3.00)

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9.3 Summary of Potential Texts for Professional-Technical Courses.

Course	Author; Title	(Price)
Introduction to OR	Carlson, Deppe, & MacLean; Recreation in American Life.	$ 8.95
	or	
	Miller & Robinson; The Leisure Age.	$ 8.95
	or	
	Yukie; Fundamentals of Recreation.	$ 3.25
OR Management	Park Practice; Trends, Grist and Guidelines.	$ 25.00 (initially) ($15.00 each year there after)
OR Administration	Doell; Elements of Park and Recreation Administration.	$ 6.00
	and	
	Park Practice; Trends, Grist and Guidelines.	(see above)
Recreation Site Design Fundamentals	Dept. of the Navy; Blueprint Reading and Sketching.	$ 1.25
	and	
	Park Practice; Design.	(included in $25 above)
	and	
	Public Health Service; Environmental Health Practice in Recreational Areas.	$ .55
Maintenance Skills	Merritt; Building Construction Handbook.	$ 22.00
Natural Res. Mgt.	Forbes; Forestry Handbook.	$ 15.00
Grounds Maint.	Conover; Grounds Maintenance.	$ 16.50
Woody Plant Materials	Harlow; Fruit Key & Twig Key.	$ 1.35
	and	

Course	Author; Title	(Price)
Woody Plant Materials (con't)	Harlow; Trees of the Eastern and Central U.S. & Canada.	$ 1.45
	and	
	Viertel; Trees, Shrubs, & Vines.	$ 1.25
Recreation Leadership	Kraus; Recreation Leaders' Handbook.	$ 7.50
	or	
	Vannier; Methods & Materials in Recreation Leadership.	$ 7.95
Arts & Crafts	Hunt; Golden Book of Crafts & Hobbies.	$ 1.95
	and	
	Morgan; Tools and How to Use Them.	$ 1.00
Interpretive Methods	NPS; Talks.	$ .20
	and	
	NPS; Campfire Programs.	$ .20
	and	
	Tilden; Interpreting Our Heritage.	$ 1.65
	and	
	Shomon; Manual of Outdoor Interpretation.	$ 3.00
Campfire Activities	NPS; Talks.	$ .20
	and	
	NPS; Campfire Programs.	$ .20
	and	
	Thurston; Good Times Around the Campfire.	$ 1.00
Camp Administration	Webb; Light From a Thousand Campfires.	$ 3.25
Camp Leadership	Hartwig; Workbook for Camp Counselor Training.	$ 4.00
	and	

Course	Author; Title	(Price)
Camp Leadership (con't)	Northway & Lowes; The Camp Counselor's Book.	$ 2.75

Approximate Total, Resource-Oriented Curriculum: $120.00

Approximate Total, Program-Oriented Curriculum: $ 65.00